

IN THE CLAIMS:

Please amend claims 28, 33, 34, 43, 44, 46, 48, 51, 54, and 55 as follows.

Please also cancel claims 29, 42, 45, 47, 49, and 50 without prejudice to or disclaimer thereof.

All claims in the application are being reproduced below in accordance with current U.S. Patent and Trademark Office practice.

1-27. (Canceled)

28. (Currently Amended) An optical system for forming an image of a reticle ~~an object~~, said optical system comprising:

an optical lens element, which is deformed by the weight thereof; and

at least one optical member for preventing a change in optical performance of said optical system due to deformation of said optical lens element, when said optical lens element is provided in said optical system.

29-32. (Canceled)

33. (Currently Amended) A projection exposure apparatus comprising:

an illumination optical system for illuminating a pattern formed on a reticle a ~~mask~~; and

a projection optical system for projecting the pattern of the reticle ~~the mask~~ onto a wafer, said projection optical system including (i) an optical lens element being deformed

by the weight thereof, and (ii) at least one optical member for preventing a change in optical performance of said projection optical system due to deformation of said optical lens element, when said optical lens element is provided in said projection optical system.

34. (Currently Amended) A device manufacturing method including a process for transferring, through projection exposure, a pattern of a reticle mask onto a wafer by use of a projection exposure apparatus as recited in claim 33.

35-37. (Canceled)

38. (Previously Presented) An optical system according to claim 28, wherein said optical lens element is a diffractive optical lens element.

39. (Previously Presented) An optical system according to claim 28, wherein said at least one optical member has at least one aspherical surface.

40. (Previously Presented) An apparatus according to claim 33, wherein said optical lens element is a diffractive optical lens element.

41. (Previously Presented) An apparatus according to claim 33, wherein said at least one optical member has at least one aspherical surface.

42. (Canceled)

43. (Currently Amended) An optical system according to claim 28 ~~claim~~ 42, wherein the refractive power of said optical lens element is a positive refractive power.

44. (Currently Amended) An optical system according to claim 28 ~~claim~~ 42, wherein the refractive power of said optical lens element is a negative refractive power.

45. (Canceled)

46. (Currently Amended) An optical system according to claim 39 ~~claim~~ 45, further comprising a second optical lens element juxtaposed to said optical lens element, wherein said at least one aspherical surface is provided on said second optical lens element.

47. (Canceled)

48. (Currently Amended) An optical system according to claim 28 ~~claim~~ 42, wherein said optical lens element has a step-like shape.

49. (Canceled)

50. (Canceled)

51. (Currently Amended) An optical system for forming an image of a reticle ~~an object~~, said optical system comprising:

an optical lens element being able to be deformed by the weight thereof; and
at least one optical member having an aspherical surface effective to prevent a change in optical performance of said optical system due to deformation of said optical lens element as said optical lens element is provided in said optical system, said at least one optical member being disposed adjacent to said optical lens element.

52. (Previously Presented) An optical system according to claim 51, wherein said optical lens element is a diffractive optical element.

53. (Previously Presented) An optical system according to claim 51, wherein said optical lens element has a step-like shape.

54. (Currently Amended) A projection exposure apparatus, comprising:
an illumination optical system for illuminating a pattern formed on a reticle a mask; and

a projection optical system for projecting light from the pattern, said projection optical system including an optical system as recited in claim 51.

55. (Currently Amended) A device manufacturing method including a process for transferring, through projection exposure, a pattern of a reticle ~~a mask~~ onto a wafer by use of a projection exposure apparatus as recited in claim 54.